

THE DICOM 2014 Chengdu Workshop

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DICOM and the Future of Medicine

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– representing the American College of Radiology (ACR)

This presentation explores DICOM's impact on clinical medical practice – today and tomorrow

- Why do physicians work on DICOM?
- How can DICOM improve medical practice?

Radiology Reporting

An international effort

- Led by the Radiological Society of North America (RSNA)
- Soon to include the European Society of Radiology (ESR)

Goals

- Improve the communication of radiology procedures
- Allow “data mining” of radiology results

- **Library of “best practice” templates**
 - RadReport.org
- **Standard for report templates**
 - Integrating the Healthcare Enterprise (IHE)
 - “Management of Radiology Report Templates” (MRRT) profile



The RSNA radiology reporting initiative is improving reporting practices by creating a library of clear and consistent report templates.

Supported in part by the National Institute of Biomedical Imaging and Bioengineering (NIBIB).

Specialties

Organizations

Languages

Popular

CA

Cardiac Radiology

CT Cardiac Bypass Graft - 7 more

CH

Chest Radiology

MR Brachial Plexus - 17 more

CT

Computed Tomography

CT Spine - 41 more

DX

Diagnostic Radiology

Ankle Xray - 28 more

ER

Emergency Radiology

Abdomen Series - 18 more

GI

Gastrointestinal Radiology

Abdomen Series - 30 more

GU

Genitourinary Radiology

US Peds Renal Doppler - 23 more

HN

Head and Neck

CT Orbits - 9 more

IR

Interventional Radiology

US Thoracentesis - 5 more

MR

Magnetic Resonance Imaging

MR Brachial Plexus - 35 more

MK

Musculoskeletal Radiology

Lumbar Spine Xray - 28 more

NR

Neuroradiology

CT Orbits - 22 more

NM

Nuclear Medicine

Bladder Reflux - 20 more

OB

Obstetric/Gynecologic Radiology

MR Female Pelvis - 5 more

OI

Oncologic Imaging

CT Onco Renal Mass - 21 more

PD

Pediatric Radiology

US Peds Renal - 12 more

QI

Quality Improvement

IR Complications - 1 more

RS

Research

CT Head and Neck Cancer Staging (ACRIN 6685) - 4 more

US

Ultrasound

US Ped

VI

Vascular Imaging

MR Neck - 8 more

radreport.org



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Radiology Reporting Initiative

July 21, 2014 11:43 am

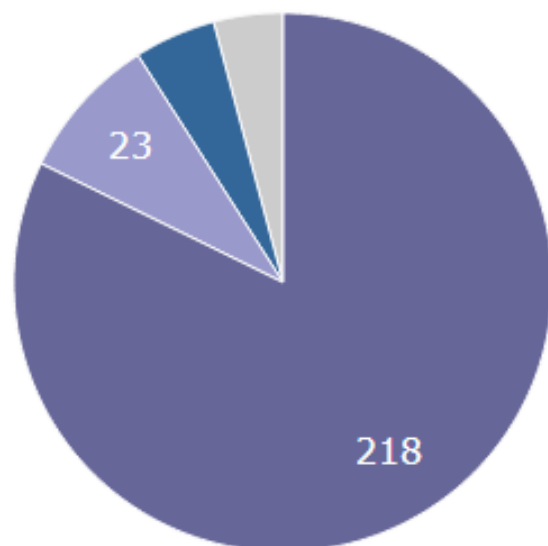
Number of Templates

265

Number of Views / Downloads

1,319,404

Distribution by Template Language



English Turkish Chinese Other

Most Viewed Templates

1. Chest Xray (24,877 views)
2. CT Brain (19,486 views)
3. US Abdomen (16,619 views)
4. Chest Xray - 2 Views (14,469 views)
5. MR Brain (13,050 views)
6. MR Knee (12,301 views)
7. CT Chest Pulmonary Embolism (12,287 views)
8. CT Chest (11,983 views)
9. CT Neck (11,540 views)
10. CT Abdomen-Pelvis (11,206 views)

Observations
section (RID28486)

Heart (RID1385)

Normal (RID13173)

Lungs (RID13437)

Set of bones (RID28569)

Findings

Heart

Normal

Lungs

No acute disease

[Mild biapical scarring is unchanged.]

Bones

Degenerative changes

[Unchanged.]

[The pacemaker is unchanged.]

Why Templates?

- Reduce variability of reports
 - Improve completeness
 - Encourage best practices
- Improve interoperability
- Support automation of report production
- Support validation of report content
- Promote data extraction

“Bone Age” template

Rapor

Prosedür
Klinik bilgiler
Karşılaştırma
Bulgular
İzlenim

Kemik Yaşı

Impression (RID13170)

Kemik yaşı

Normal

"Normal kemik yaşı, kronolojik yaş 2 standart sapma içinde"

[_____]

İleri

Gecikmiş

[_____]

[_____]

报告

程序
临床资料
对照
结果
印象

骨龄

骨龄

正常

"正常的骨龄与正常时间年龄在2个标准偏差以内"

[_____]

超过的

落后的

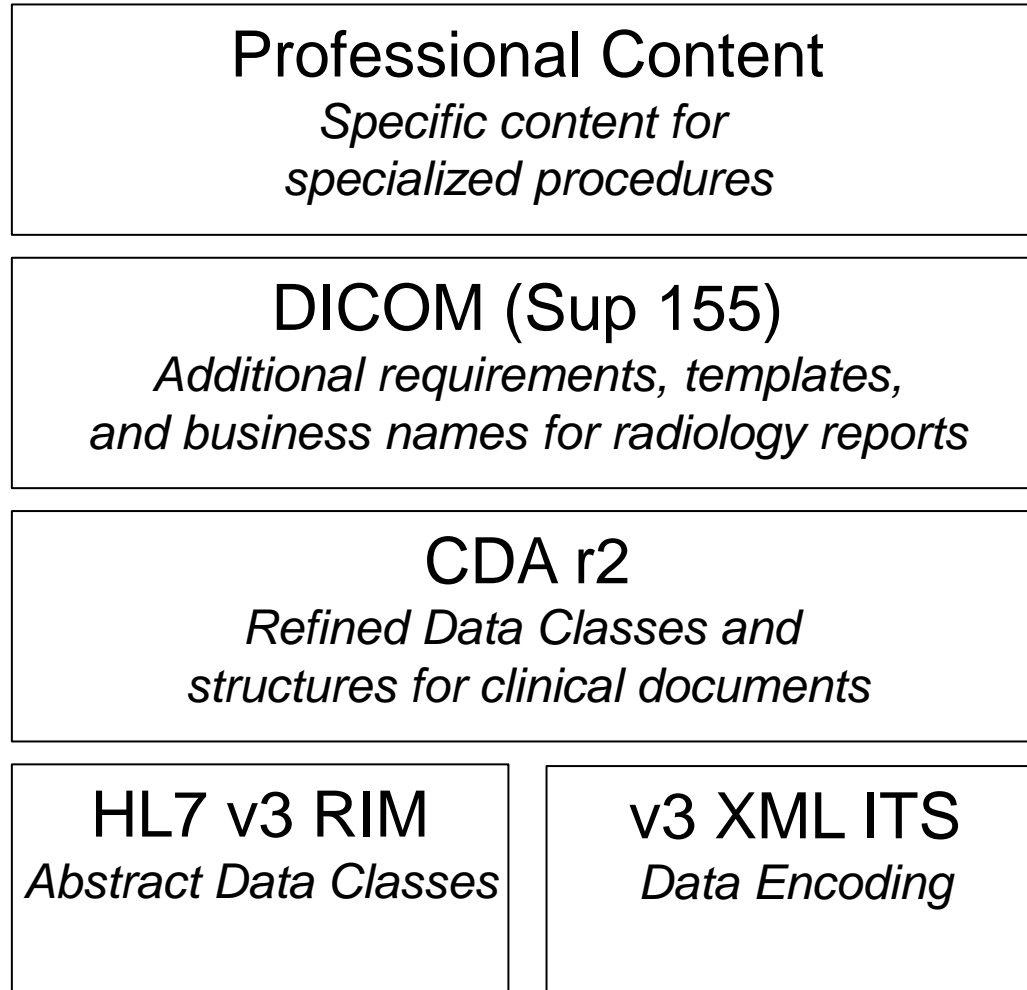
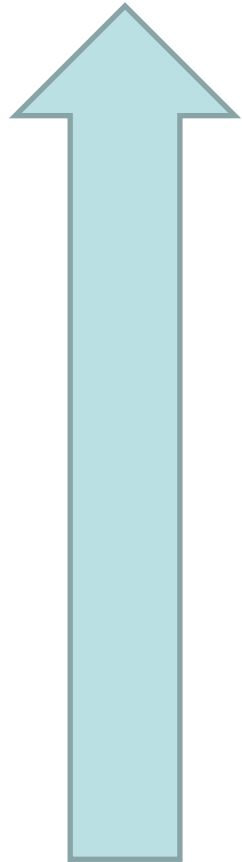
[_____]

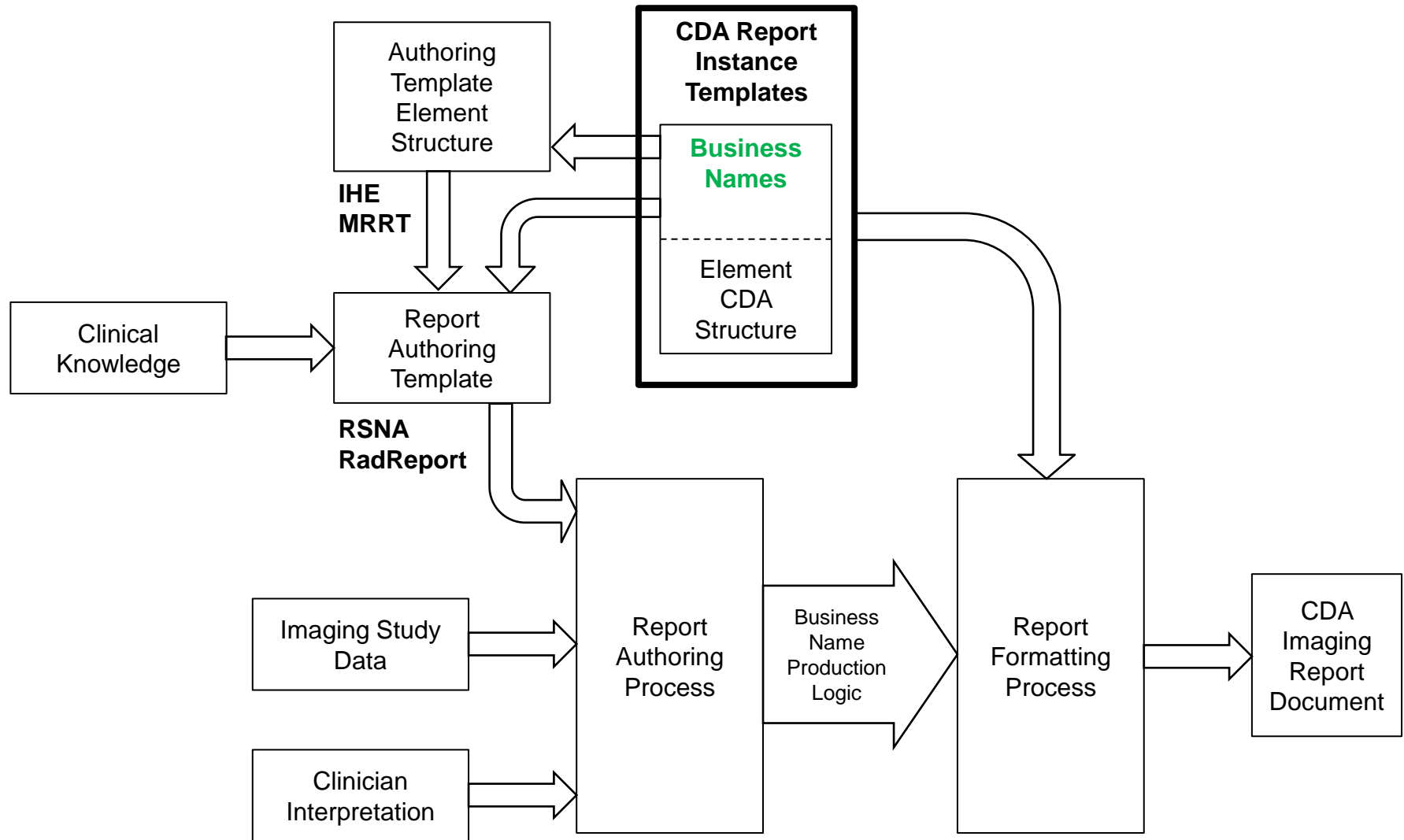
[_____]

Turkish

Chinese

Multiple layers of constraint





New “Work Item”

- Proposed to DICOM Standards Committee
- Assigned to Work Group 8 (Structured Reporting)
 - Harry Solomon (GE Healthcare), co-chair
 - Charles Kahn (ACR), co-chair

DICOM Supplement 155

- Defines how radiology reports are exported into HL7 Clinical Document Architecture (CDA)
- CDA provides a universal format for clinical results
 - Integrates radiology results with entire health record
 - Allows “data mining” for research and quality improvement

Why do physicians work on DICOM?

- Technical expertise
- Advocacy and communication with physician communities
- Contribution to international effort

How can DICOM improve medical practice?

- Standards foster competition to create better products
- DICOM helps advance the worldwide adoption of new medical imaging technology

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谢谢